L 51511-65

ACCESSION NR: AP5010763

... there was no high temperature maximum. The results are attributed ...

... occurring in the region of a diffusion p-n junction energized ...

... tics." Orig. art. has: 2 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 07Jul64 ENCL: 00 SUB CODE: SS, OP

NR REF SOV: 006 OTHER: 007

Card 2/2

L 15703-66 EWT(m)/EWP(t)/EWP(b) LJP(c) JD

ACC NR: AP6000869 SOURCE CODE: UR/0181/65/007/012/3641/3643

AUTHOR: Gorban', I. S.; Kosarev, V. M.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet)

TITLE: On the properties of the fine structure of the absorption spectrum in gallium phosphide crystals

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3641-3643

TOPIC TAGS: gallium compound, absorption spectrum, fine structure, absorption edge, exciton absorption, crystal absorption

ABSTRACT: The authors present results of quantitative investigations of the absorption spectrum of GaP at different temperatures. On the basis of the hypothesis of Ye. F. Gross et al. (DAN SSSR, v. 153, 574, 1963) that the spectral distance from the edge of the last step on the absorption curve to the point of inflection should be equal to the exciton dissociation energy, the authors deduce from the experimental data (Fig. 1) a formula for the edge absorption as a function of the photon energy and the temperature. This formula is shown to agree with the experimental data, and disagreement indicates that the absorption in GaP has an exciton-phonon nature. The 2.315 ev band, with half-width 0.004 ev, observed at 103K is situated where the exciton band would be observed if the direct transition were allowed. The appearance of this band is attributed to violation of the selection rules with respect to the

Card 1/2

L 15743-66

ACC NR: AP6000869

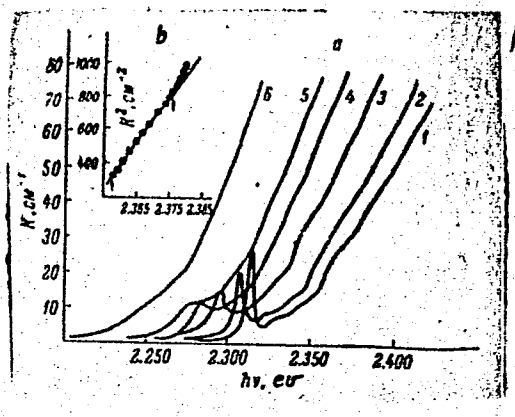

Fig. 1. Absorption of GaP single crystals. a -- Edge of intrinsic absorption at different temperatures, b -- section of absorption curve in coordinates K^2--hν and T (K--absorption coefficient, T--temperature).

quasimomentum. It is deduced from the spectral analysis that the most probable impurity in the crystals investigated is silicon, which can cause the fine structure of the absorption edge to vanish at high impurity concentrations. Orig. art. has: 2 figures, 2 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 21May65/ ORIG REF: 005/ OTH REF: 005

Card 2/2

L 15735-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/WH
ACC NR: AP6000896 SOURCE CODE: UR/0181/65/007/012/3694/3695

AUTHORS: Gorban', I. S.; Mishinova, G. I.; Suleymanov, Yu. M.

ORG: State University im. T. G. Shevchenko, Kiev (Gosudarstvennyy universitet)

TITLE: Line and band spectra of luminescence in crystals α-SiC(6H)

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3694-3695

TOPIC TAGS: line spectrum, band spectrum, luminescence spectrum, silicon carbide, exciton, crystal

ABSTRACT: The authors investigated the photoluminescence spectra of α-SiC(6H) with donor (nitrogen) concentrations 10^{17} -- 10^{19} cm^{-3} at 77 -- 90K. Two types of spectra were observed, one in the 'blue' region with a maximum near 2.65 ev and with some irregularities near 2.2 ev for n-type crystals with donor concentration 10^{18} -- 10^{19} cm^{-3}, and with a line spectrum with a maximum at 2.45 ev ('green' region) and a narrow-line structure near the 'blue' region. The blue band

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L 15735-66
ACC NR: AP6000896

2

has an irregular structure at the positions of the lines of the green band. It is suggested that the smearing of the line spectrum in the blue band occurs at sufficiently large nitrogen concentrations, when the interaction between the impurity centers cannot be neglected. The relative intensity of the line spectrum in the green band did not remain constant in different crystals, so that the green luminescence cannot be related to the nitrogen. The blue luminescence can be attributed to excitons localized on the ionized donors, and the green band to donor-accepted pairs produced by the nitron and the aluminum acceptor, as well as to phonon interaction. Authors thank I. G. Pichugin for supplying the crystals. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 23Jul65/ OTH REF: 001

Card 2/2

L 41022-66 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6019651 SOURCE CODE: UR/0368/66/004/006/0516/0522

AUTHOR: Gorban', I. S.; Kaleynik, G. M.; Suleymanov, Yu. M.

ORG: none

TITLE: Optical spectra and electron transitions in crystals of gallium phosphide

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 6, 1966, 516-522

TOPIC TAGS: gallium compound, gallium optic material, phosphide, optic crystal, optic spectrum, electron transition, electroluminescence

ABSTRACT: Investigations of the longwave absorption edge and of el. t :oluminescence were carried out for GaP crystals having a linear structure at the fundame t l absorption edge at low temperatures and those without such a structure ("pure" crystals The characteristic parameters for "pure" crystals were determined from an analysis of ie longwave fundamental absorption edge associated with indirect transitions into the exciton - nd and conduction band. The appearance of a discrete structure of the longwave absorption edge in crystals with a linear structure was due to exciton localization near impurities of unknown origin. This was confirmed by the presence of an intense green electromagnetic band at low temperatures. An analysis of the observed fine structure of absorption revealed an exciton dissociation energy

UDC: 535.34

Card 1/2

of 0.021 ± 0.002 eV and an energy of 0.024 ± 0.002 eV of the phonon participating in the indirect transitions. Localized excitons proved to be an effective channel of radiative transition in GaP crystals which was manifested in the spectrum of electroluminescence demonstrated at low temperatures. The fundamental significance of the results is that it is theoretically feasible to create an effective channel of radiative transitions in GaP crystals for which indirect transitions are characteristic. The authors thank I. Ryzhikov, A. Kruchinin, and Yu. Il'in for providing the specimens used in the investigations. Orig. art. has: 3 figures and 4 formulas.

SUB CODE: 07,11,20/ SUBM DATE: 12Feb65/ ORIG REF: 006/ OTH REF: 005

ACC NR: AP6037013 (A,N) SOURCE CODE: UR/0181/66/008/011/3424/3426

AUTHOR: Gorban', I. S.; Gumenyuk, A. F.; Suleymanov, Yu. M.

ORG: Kiev State University im. T. G. Shevchenko (kiyevskiy gosudarstvennyy universitet)

TITLE: Energy and kinetic parameters of impurity nitrogen in silicon carbide crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3424-3426

TOPIC TAGS: silicon carbide, crystal impurity, nitrogen, impurity level, electron capture, capture cross section, thermoluminescence, luminescence spectrum, semiconductor band structure

ABSTRACT: This is a continuation of earlier investigations of the line spectrum of luminescent crystals α-SiC (6N) (FTT v. 7, 3694, 1965) where it was established that nitrogen forms three donor levels corresponding to three nonequivalent positions of the nitrogen atoms in the lattice. The present paper is devoted to an investigation of the energy and kinetic parameters of these levels, and to kinetic parameters such as cross sections for the capture of electrons by these levels. The required relations are determined from the variation of the thermoluminescence of these crystals as the nitrogen content is varied, and comparison of the changes in the thermoluminescence with the changes in the luminescence spectrum, which was shown in the earlier investigation to change from a band spectrum into a line spectrum with de-

ACC NR: AP6037013

creasing nitrogen concentration. Low temperature thermoluminescence was investigated for three crystals, one containing nitrogen with a concentration (10^{18} cm^{-3}) for which the luminescence has a band spectrum, and two containing a lower concentration (10^{17} cm^{-3}), with a line spectrum. At low nitrogen concentration, the low-temperature thermoluminescence curves consisted of three bands, which can be related to thermal release of electrons from the different types of centers. The individual elementary thermoluminescence bands were spearated by special heat treatment. This has made it possible to have the thermoluminescence intensity variation governed by only one of the elementary bands. This yielded for the distances of the three types of nitrogen levels to the bottom of the conduction band values 0.18, 0.21, and 0.24 ev, which coincided with those obtained earlier for the energy distances between the exciton width of the forbidden band and the spectral positions of the front lines of the spectrum. The corresponding values obtained for the cross section for the capture of electrons from the conduction band by the nitrogen centers are 5×10^{-19}, 2×10^{-19}, and 2×10^{-19} cm^2. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 04Jun66/ ORIG REF: 003/ OTH REF: 004

Card 2/2

CHUGAYNOV, P.F.; GORBAN', I.S.; VORONKOVA, A.G.

Lyrids in 1950. Biul.VAGO no.16:25-26 '55. (MLRA 8:6)

1. Simferopol'skaya meteornaya stantsiya imeni G.O. Zatey-shchikova. (Meteors--April)

GORBAN', I.S.

Changes in the heat resistance of plant cells during the process of leaf growth. TSitologiia 3 no. 2:167-175 Mr-Ap '61. (MIRA 14:4)

1. Institut tsitologii i Botanicheskiy institut AN SSSR, Leningrad.
(HEAT—PHYSIOLOGICAL EFFECT)
(PLANTS, EFFECT OF TEMPERATURE ON)

GORBAN' I. S.

"Primary Vulnerability and Reparative Power of Plant Cells under the influence of High Temperatures." pp. 23

Institute of Cytology AS USSR Laboratory of Cell Biochemistry

II Nauchnaya Konferentsuya Instituta Tsitologii AN SSSR. Tezisy Dokladov (Second Scientific Conference of the Institute of Cytology of the Academy of Sciences USSR, Abstracts of Reports), Leningrad, 1962 88 pp.

JPRS 20,634

GORBAN', I.S.

Relation between the growth and the thermostability of plant cells. TSitologiia 4 no.2:182-192 Mr-Ap '62. (MIRA 15:8)

1. Institut tsitologii AN SSSR, Leningrad i Botanicheskiy institut AN SSSR, Leningrad.
(PLANTS, EFFECT OF TEMPERATURE ON)

GORBAN, I. S.

"Reparation of hear injury in cells of different age."

UNESCO - International Symposium on the Role of Cell Reactions in Adaptations of Metazoa to Environmental Temperature.

Leningrad, USSR, 31 May - 5 June 1963

ALEKSEYTSEV, I.; ZHOKHOV, V.; KASHUBA, A.; KARAVAYEV, G.; GORBAN', L.

Information received from our readers. Pozh.delo 8 no.1:29 Ja '62. (MIRA 15:1)

(Fire prevention)

GORBAN', K.Ye.; AL'TERMAN, D.N.

New types of canned pepper products using biologically ripe peppers. Kons.i ov.prom. 12 no.8:7-11 Ag '57. (MLRA 10:10)

1. Simferopol'skaya ovoshchekartofel'naya opytnaya stantsiya.
(Pepper--Preservation)

GORBAN, I. S.

Two simple spectral interference methods for the investigation of the dispersion in the visible and the ultraviolet regions of the spectrum. I. S. Gorban and A. A. Shishlovskii. *Zhur. Tekh. Fiz.* 25, 1297–300(1955).—The first method described is based upon the Fresnel diffraction phenomena at the boundary of two transparent mediums. It is shown how simple it is to measure the dispersion curves for liquids and solns., without it being necessary to det. 1st the n for a certain wave length. The other method is based upon the use of a Rayleigh-type interferometer combined with a spectrograph. It is shown that this method is especially suitable for the investigation of the anomalous dispersion of dyes in soln.

Werner Jacobson

Smw

(1)

GORBAN', M.Ya. [Horban', M.IA.]

Determining all linear constructive elements of a two-component lens on the basis of requirements with respect to monochromatic and chromatic aberration. Visnyk Kyiv.un.no.2.Ser.fiz.ta khim. no.1:27-35 '59. (MIRA 14:8)

(Lenses)

GORBAN', M.Ya. [Honban', M.IA.]

Determining the W_2 parameter of a two-component lens with respect to the prescribed values of the first three sums of Seidel. Visnyk Kyiv.un.no.2.Ser.fiz.ta khim. no.1:37-43 '59. (MIRA 14:8)
(Lenses)

S/058/60/000/006/036/040
A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, pp. 345-346, #15236

AUTHOR: Gorban', M.Ya.

TITLE: Determination of all Design Elements of a Two-Component Objective on the Basis of Demands to Monochromatic and Chromatic Aberrations

PERIODICAL: Visnik Kiivsk. un-tu, 1959, No. 2, ser. fiz. ta khimii, No. 1, pp. 27-35 (Ukrainian; Russian summary)

TEXT: The problem of determining the linear design elements of a two-component system, the components of which are located at a finite distance from each other, is reduced to the solution of a linear equation system. Monochromatic aberration is determined by the three first sums according to the Seidel-formulation, which appear in the terms of the equations. The solution of the equation system can be replaced by the solution of an algebraic equation of fourth degree; the different roots of this equation yield the values of the unknowns sought for. The demands made with respect to chromatic aberrations impose restrictions on the terms of the fundamental equation.

N.I. Kulikovskaya

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

ACCESSION NR: AR3010526 S/0058/63/000/009/D067/D067

SOURCE: RZh. Fizika, Abs. 9D489

AUTHORS: Gorban', M. Ya.; Shaykevich, I. A.

TITLE: Phase dependence of reflected light waves

CITED SOURCE: Visny*k Ky*yivs'k. un-tu, no. 4, 1961, ser. astron., fiz. ta khimiyi, vy*p. 1, 41-45

TOPIC TAGS: reflected light waves, phase dependence, connection with propagation direction, p-component, s-component

TRANSLATION: The connection between the phase of a reflected light wave and the coordinate system is considered. It is shown that the phase of a light wave must always be related with the wave propagation direction, i.e., with the wave normal, just as is done in the determination of the left-hand or right-hand rotation of op-

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ACCESSION NR: AR3010526

tically active substances, left or right circular polarization of a wave, etc. This conclusion is fully confirmed by all the known optical experiments, including an experiment set up by the authors to determine the phase relations between the p- and s-components in a reflected light wave. On the other hand, if the phase of the light wave is not related with the wave propagation direction, then a whole series of contradiction arises, particularly in metal optics. Bibliography, 16 titles.

DATE ACQ: 14Oct63 SUB CODE: PH ENCL: 00

Card 2/2

KARAL'NIK, S.; KRULIKOVSKIY, B.; GORBAN', N.

Study of magnetic changes in metals and alloys at high temperatures, by means of a vibration galvanometer. Nauk povid. KDU no.1:53-55 '56. (MIRA 11:4)

(Metals at high temperatures)
(Alloys--Magnetic properties)
(Galvanometer)

PALATNIK, L.S.; GORBAN', N.D.

Study of multicomponent heterogeneous systems by phase mass measurement. Part. 3. Zhur. fiz. khim. 36 no.6:1276-1279 Je '62 (MIRA 17:7)

1. Khar'kovskiy gosudarstvennyy universitet.

PALATNIK, L.S.; GORBAN', N.D.

Study of corrosion processes on specimens of varying composition. Dokl. AN SSSR 147 no.2:346-349 N '62. (MIRA 15:11)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo. Predstavleno akademikom S.A. Vekshinskim.

(Corrosin and anticorrosives)

L 13779-65 EWT(m)/EWA(d)/EWP(t)/EPA(bb)-2/EWP(b) IJP(c)/ASD(m)-3/SSD/ASD(a)-5/
AFWC(p) JD/WB

ACCESSION NR: AP4044150 S/0126/64/018/002/0220/0225

AUTHOR: Palatnik, L. S.; Gorban', N. D.

TITLE: Corrosion of vacuum-deposited metallic films in a mixture of air and hydrogen sulfide

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 2, 1964, 220-225

TOPIC TAGS: vacuum deposited film corrosion, vacuum deposited film, corrosion, copper film corrosion, silver film corrosion, lead film corrosion, cadmium film corrosion, zinc film corrosion, germanium film corrosion, beryllium film corrosion

ABSTRACT: The corrosion kinetics of vacuum-deposited films of Cu, Ag, Pb, Cd, Zn, Cr, Mg, Sn, Fe, Ge, Al, and Be in a mixture of air with [illegible] hydrogen sulfide has been investigated at 20C and a relative humidity of [illegible]%. The films, 50—600 thick, were deposited on a glass [illegible] at 30—40C in a vacuum of 3—[illegible] mm Hg, the exposure time was 20 days for Cu and 30 days for other metals. No corrosion was detected on Al and Be films. Ge, Fe, Sn, Mg, Cr, Zn, Cd, and Pb underwent

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L 13779-65
ACCESSION NR: AP4044150

an insignificant corrosion, with a weight loss (P, in g/cm^2·10^6) ranging from 1.32 and 2.02 in Ge and Fe to 15.14 and 27.67 in Cd and Pb, respectively. Since corrosion also had no effect on the surface structure of these metals, they can be classified as resistant against the corrosion described. The time dependence of the corrosion is logarithmic for Ge, Fe, Sn, Mg, and Cr and parabolic for Zn, Cd, and Ag. Ag and Cu showed greatest corrosion with a respective weight loss of 107.45 and 315.23. After the initial 10-min exposure, corrosion of Cu increased linearly with the exposure time. The products of the corrosion of Ag and Cu were sulfides of single valence metals. Orig. art. has: 3 figures, 5 formulas, and 3 tables.

ASSOCIATION: Khar'kovskiy gosuniversitet im. A. M. Gor'kogo (Khar'kov State University)

SUBMITTED: 20Jul63 ATD PRESS: 3131 ENCL: 00

SUB CODE: MM NO REF SOV: 005 OTHER: 000

Card 2/2

PALATNIK, L.S.; GORBAN', N.D.

Study of corrosion processes on samples of varying composition. Fiz.met. i metalloved. 18 no.5:735-739 N '64. (MIRA 18:4)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo i Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina.

83510

S/124/60/000/006/007/039
A005/A001

26.2114
10.6121

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 6, pp. 26-27, # 7014

AUTHOR: Gorban', N.F.

TITLE: Determination of the Gas-Dynamic Characteristics of a Stream Behind a Direct Shock Wave With Allowance for the Variable Heat Capacity and Air Dissociation

PERIODICAL: V sb.: Fiz. gazodinamika, Moscow, AN SSSR, 1959, pp. 83-93

TEXT: The authors point out that at present only graphical methods for determining the gas-dynamic values behind the shock wave front are known with allowance for the variable heat capacity and air dissociation. An analytical calculation method is presented in the article, which permits the utilization of the mechanical computation techniques. For solving the equation system connecting the values before and behind the shock zone (indices 2 and 1 respectively), the values of p_2, T_2, T_1, μ_1, i_1, μ_2, i_2 are prescribed, and the equations are solved successively with respect to v_1, v_2, p_1, ϱ_1, ϱ_2 (p is the pressure, T is the temperature, ϱ is the density, v is the velocity, i is the enthalpy, μ is the molecular weight). The thermodynamic correlations $\mu(p,T)$ and $i(p,T)$ were taken

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83510

S/124/60/000/006/007/039
A005/A001

Determination of the Gas-Dynamic Characteristics of a Stream Behind a Direct Shock Wave With Allowance for the Variable Heat Capacity and Air Dissociation

from the tables. The calculations were carried out for two initial temperatures of T_1 = 220 and 350°K. Graphs of the correlations of p_1, v_2, T_2, ρ_2, a_2, γ_2 versus v_1 were plotted for p_2 = const (a is the sound velocity, γ is the adiabatic exponent) on the basis of calculations. The curves p_1 (v_1) were plotted for various p_2, from which the values of v_1 were determined for prescribed p_2, p_1, for making possible the transition to the dependences of the values behind the front on the velocity of the front at various initial densities which correspond to various altitudes. All the values behind the front depending on the velocity of the front v_1 and the initial density ρ_1 were found on the basis of the preceding graphs. In this way, tables were compiled for the range of velocity v_1 from 2,000 to 8,500 m/sec and altitudes from 0 to 80 km (the tables are not published in the article). It turned out as a result that the initial temperature T_1 affects essentially only the values p_2 and ρ_2; but the influence of the initial temperature on the values T_2, a_2, M_2 (Mach number) is unessential. Graphs of p_2/p_1, T_2, ρ_2/ρ_1, v_2/v_1, M_2 versus v_1 for p_2 = 1 atm are given for illustration and

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A005/A001

Determination of the Gas-Dynamic Characteristics of a Stream Behind a Direct Shock Wave With Allowance for the Variable Heat Capacity and Air Dissociation

furthermore, the author's data are compared with the calculation results of Vanichev, who used the value 7.38 ev for the dissociation energy of N_2 and 5.29 ev for that of NO instead of the correct values 9.76 ev and 6.49 ev.

Yu.R.

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

10(7)

05278
SOV/170-59-7-9/20

AUTHORS: Gorban', N.F., Bronskiy, L.N.

TITLE: Experimental Study of the Process of Melting of Bodies in a Supersonic Hot Gas Flow

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 7, pp 61 - 66 (USSR)

ABSTRACT: The authors carried out an investigation into the melting process of conical and cylindrical bodies in a supersonic hot gas flow. The main part of the experimental installation was a combustion chamber fitted with a Laval nozzle, the temperature in which was maintained at 500 and 1,000°C and pressure at 13.2 and 24.2 kg/cm^2. There were 3 series of experiments: 1. Determination of melting rate of bodies made of a single material, lead or aluminum, having a simple geometrical shape, cylinder and cones with tapering angles of 10, 20 and 30°; 2. Investigation into the melting of bodies equipped with a protective tip of high-melting steel, and 3. The checking of effectiveness of protection of the models by means of a counter-flow of cold air. The processes of gas flowing around the models and their melting were filmed at a rate of 8 pictures per second, and the results of a subsequent analysis of these pictures are presented in graphs. The following conclusions were drawn from these graphs. The

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Experimental Study of the Process of Melting of Bodies in a Supersonic Hot Gas Flow

rate of melting of models is constant in time and its value depends on their shape and behavior of the gas flow passing around them. The process of melting is accelerated with an increase in the Mach number of the gas flow and the temperature at which the gas is checked. In melting the conical specimens, the rate decreased with an increase in the tapering angle of the model. The effect of protection of models by high-melting tips proved to be very efficient, especially when flat tips were applied, and less efficient in application of conical tips. The rate of melting was considerably reduced when a counter-flow of cold air was employed. It was established that an aluminum model was not melted at a temperature of checking the flow equal to 900°C and a pressure of the cold air of 5 atm. It is concluded that this method of protection shows promise and that studies should be continued.

05278
SOV/170-59-7-9/20

Experimental Study of the Process of Melting of Bodies in a Supersonic Hot Gas Flow

There are: 4 graphs and 1 table.

ASSOCIATION: Energeticheskiy institut AN SSSR(Power Engineering Institute of the AS USSR), Moscow.

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81406

S/020/60/132/06/31/068
B004/B005

5.3200

AUTHORS: Gorban', N. I., Nalbandyan, A. B.

TITLE: Determination of Rate Constants for Elementary Reactions of Hydrogen Atoms With Hydrocarbons

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp. 1335-1338

TEXT: The authors discuss the papers by N. N. Tikhomirova and V. V. Voyevodskiy (Ref. 2) who found the constants of the reaction H + RH = $= H_2$ + R (I) by determining the lowering of the upper ignition point in hydrogen-hydrocarbon mixtures. The authors suggest a variation of this method which facilitates a more accurate determination of the constants and the activation energy of the atomic hydrogen with various hydrocarbons, and is based on measuring the raising of the lower ignition point. This determination is made in the temperature range 400 - 550°C where the influence of water vapor and the reaction of HO_2 with other molecules are still negligibly small. Equation (II) is written down: $2K_2(O_2) = K_4 + K_5(RH)$,

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where K_2 is the rate constant of the reaction $H + O_2 = OH + O$, K_4 the rate constant of the adsorption of H atoms by the walls of the reaction vessel, and K_5 the rate of the reaction (I). Equation (IV) is derived: $\Delta P/P_{RH} = 3/2(K_5/K_2)$, where ΔP is the difference of the partial pressures of oxygen at the lower ignition point in the presence of the inhibitor RH and without an inhibitor, P_{RH} is the partial pressure of the inhibiting hydrocarbon. K_5 can be computed from the experimentally found ΔP and P_{RH}, as well as the values for K_2 indicated in Ref. 5. Equation (V) is obtained by introducing the energy equations $K_5 = K_5^0 \exp(-E_5/RT)$ and $K_2 = K_2^0 \exp(-E_2/RT)$, and by taking the logarithm. $\Delta E = E_2 - E_5$ is determined from the inclination of the straight line in the diagram $\log(\Delta P/P_{RH})$, $1/T$. The lower ignition point of $H_2 - O_2$ mixtures was determined in a quartz vessel which had been washed with hydrofluoric acid, distilled water, and 2% potassium

Determination of Rate Constants for Elementary Reactions of Hydrogen Atoms With Hydrocarbons

S/020/60/132/06/31/068
B004/B005

tetraborate. Low measurement values were obtained in this way. Inflammation was recorded by means of a diaphragm manometer. Figs 1, 2 show the temperature dependence of the lower ignition points for $2H_2 + O_2$, and with the addition of 0.6% of C_2H_6 or 0.4% of C_3H_8. Table 1 indicates the values for K_5 and E_5 with the addition of ethane, propane, or butane, Figs. 3, 4 show the linear dependence of the $\log(\Delta P/P_{RH})$ on $1/T$ with the addition of ethane or propane. The values obtained are higher than those indicated in Ref. 1, and come near to those measured by E. W. R. Steacie (Ref. 11). There are 4 figures, 1 table, and 6 references: 4 Soviet, 6 British, and 1 American.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: February 5, 1960, by V. N. Kondrat'yev, Academician

SUBMITTED: February 2, 1960

Card 3/3

GORBAN', N. I. PA 31/49T100

USSR/Medicine - Anthrax, Prevention Aug 48
Medicine - Epidemiology

"A New Method for Disposing of Anthrax-Infected Corpses," N. I. Gorban', Kiev Vet Inst, ½ p

"Veterinariya" No 8 Vol 25, p. 43

Explains how corpses can be burned on the spot using a fuel oil sprayer.

[redacted] 31/49T100

PA 67/49197

GORBAN', N. I.

USSR/Medicine - Cattle Diseases Jun 49
Gnats

"Disease of Cattle and Horses Caused by the Bite of Gnats (Melusino Toxicosis)," N. I. Gorban', M. M. Vorob'yev, Kiev Vet Inst, 2 pp

"Vet" No 6, Vol 26, p. 30

Studies described show that this disease, Melusino toxicosis, is due to toxin of the acid group introduced into the blood by the bite of the Melusina. The toxin causes erythropenia and severe leukopenia. The best treatment is a local application of aqua ammonia and 300 ml of 30% alcohol by mouth. Suggests further study of means of eliminating the gnats, and of the chemical structure of the toxin.

67/49197

USSR/Medicine - Cattle Diseases (Contd) Jun 49

67/49197

GORBAN, N. I.
Kiev Veterinary Institute
"New method of obtaining bronchi mucus"
SO: Veterinariya 27 (7), 1950, p. 55

GORBAN, N. I. 188T83

USSR/Medicine (Vet) - Infectious Diseases Jun 51

"Leptospirosis of Hogs," N. I. Gorban', Kiev Vet Inst

"Veterinariya" Vol XXVIII, No 6, pp 41, 42

Describes epizootology, etiology, and clinical symptoms of this disease. For purposes of therapy, recommends sodium sulfate per os; urotropin (bolus) for disinfection of the urinary tract; uliron (bolus) for disinfection of the gastrointestinal tract; caffeine-sodium benzoate (bolus) to stimulate the heart, vasomotor activity of nerve centers, and diuresis; mucous enemas. Outlines prophylactic measures (pure water supply, disinfection, etc.).

LC 188T83

GORBAN', N.I., kandidat veterinarnykh nauk.

Importance of certain epizootological factors in foot-and-mouth disease. Veterinariia 30 no.7:22-24 Jy '53. (MLRA 6:7)

1. Kiyevskiy veterinarnyy institut.

USSR / Diseases of Farm Animals. Diseases Caused by Bacteria and Fungi R

Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 74204

Author : Gorban', N. I.

Inst : Kiev Veterinary Institute

Title : On the Problem of Epizootology in Swine Erysipelas

Orig Pub: Tr. Kiyevek. vet. in-t, 1957, 13, 119-120

Abstract: Swine erysipelas was observed for a whole year; it achieves maximal development in the summer-autumn period. Maximal fatality is observed in the winter, and minimal in the summer period. These data do not agree with that in the literature which states that swine erysipelas is more benign in the winter period. -- From the author's resume.

Card 1/1

PETRENKO, Boris Grigor'yevich [Petrenko, B.H.], prof.; GORBAN', M.I. [Horban', M.I.], kand.veterin.nauk, red.; TUBOLEVA, M.V. [Tubolieva, M.V.], red.

[Achievements of Soviet veterinary medicine] Dosiahnennia radians'koi veterynarii. Kyiv, 1958. 32 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukraina'koi RSR. Ser.3, no.21) (MIRA 12:2)

(Veterinary medicine)

GORBAN', Nikolay Ivanovich

[Foot-and-mouth disease] Iashchur. 2. vypravlene i dop. vyd. Kyiv, Derzh. vyd-vo silskohospodarskoi lit-ry Ukrainskoi RSR, 1958. 46 p. (MIRA 12:3)
(Foot-and-mouth disease)

GORBAN', N. I.

Protivoepizooticheskie meropriiatiia (Antiepizootic measures) (Methodical lectures and advices) Kiev, 1959, 31 pages with a map (Association for the spread of political and scientific knowledge in the Ukrainian SSR. Series 12, no. 4) Price 30 k., 1,400 copies. In the Ukrainian language.

GORBAN', M.I. [Horban', M.I.], kand.vet.nauk

Foot-and-mouth disease. Nauka i zhyttia 9 no.7:39-41 Jl '59. (MIRA 12:11)
(Foot-and-mouth disease)

GORBAN', Nikolay Ivanovich [Horban', M.I.], kand.veterin.nauk; BOZHKO, G.K. [Boshko, H.K.], otv.red.; GURENKO, V.A. [Hurenko, V.A.], red.

[Veterinary hygiene in animal husbandry] Veterynarno-sanitarni zakhody v tvarynnytstvi. Kyiv, 1960. 43 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.6). (MIRA 13:6)

1. Golovniy vetlikar-yepizootolog Upravlinnya veterinarii MSG URSR (for Boshko).
(Veterinary hygiene)

GORBAN', Nikolay Ivanovich [Horban', M.I.], kand. vet. nauk; GURENKO, V.A., [Hurenko, V.A.], red.; MATVIICHUK, O.A., tekhn. red.

[Controling communicable diseases in livestock] Borot'ba z infektsiinymy zakhvoriuvanniam u tvarinnytstvi. Kyiv, 1961. 43 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.5, no.21) (MIRA 14:12)
(Stock and stockbreeding--Diseases and pests)

GORBAN', N. I., NASTENKO, K. A., DMITRIYEV, K. I. and SHCHERBINA, A. K.
(Candidates of veterinary sciences and Doctor of Veterinary Sciences)

"Testing of biomycin in pasteurellosis of ducklings"

Veterinariya, Vol. 38, no. 10, October 1961, pp. 81-89

GORBAN, N. I - Cand Vet. Sci

31744
S/153/61/004/005/001/005
E134/E485

54600

AUTHORS: Burlakova, Ye.B., Gorban', N.I., Dzantiyev, B.G., Sergeyev, G.B., Emanuel', N.M.

TITLE: The effect of gamma radiation on the oxidation of methyl oleate in the presence of inhibitors of free radical processes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy SSSR. Khimiya i khimicheskaya tekhnologiya, v.4, no.5, 1961, 751-754

TEXT: In previous work on the radiological oxidation of natural fats (Ref.1: Izv. VUZ SSSR. Khimiya i khim. tekhnologiya, v.2, 533 (1959)), the present authors had related a reduced induction period with destruction of inhibitors by radiation. In view of the complexity of natural fats, in which the quantity and structure of antioxidants is unknown, the authors decided to study methyl oleate - inhibitor systems. Diphenylamine and hydroquinone, both known as inhibitors of free radical reactions, were employed. The authors had previously (Ref.2: Izv. VUS SSSR. Khimiya i khim. tekhnologiya, v.3, 265 (1960)) studied the effect of radiation on inhibitor free methyl oleate, and considered that radiation leading

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The effect of gamma radiation ..

to free radical formation would destroy the inhibitors by reaction with free radicals. Samples were exposed to gamma radiation from Cobalt 60 in apparatus GUT-400 (GUT-400) and the destruction of the inhibitor was followed spectrophotometrically. Irradiation took place at 20°C. Oxidation experiments on irradiated and non-irradiated methyl oleate were carried out at 80°C with continuous passage of air. Experiments with inhibitor free methyl oleate were carried out simultaneously under identical conditions to obtain the rate of free radical formation. Experimental details and methods of analysis were as described in Ref.2. Curves showing the rate of free radical formation in inhibited and non-inhibited methyl oleate were found to be parallel and differed only in their induction period. The total induction period consists of the basic induction period for the oxidation of inhibitor free methyl oleate and an additional induction period related to the concentration of inhibitor; the latter is practically completely destroyed before free peroxide radicals are observed. The additional induction period is directly proportional to inhibitor concentration, which is characteristic of inhibitors reacting with radicals. Induction periods for

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The effect of gamma radiation ...

irradiated material were lower than for non-irradiated material due to inhibitor destruction, and the decrease in induction period was found to be proportional to the quantity of radiation. Curves showing the relation between inhibitor concentration and induction period, and the decrease in induction period of inhibited methyl oleate with total quantity of radiation, are given as well as correlating equations. It has been shown that quantity of radiation is controlling, and that intensity has virtually no effect. At the low temperature of radiation, the induction period of non-inhibited methyl oleate was practically unaffected by radiation. The correlation between the induction period of inhibited methyl oleate and the quantity of radiation made it possible to calculate the number of radicals formed per unit of radiation. Experiments, carried out in the presence and absence of oxygen respectively, lead to the suggestion that removal of a hydroquinone type inhibitor takes place essentially by reaction with an RO_2 type radical. There are 5 figures, 1 table and 3 Soviet-bloc references.

Card 3/4

NALBANDYAN, A.B.; GORDIYENKO, L.I.

Determining the velocity constant of the reaction $H + CH_4 \rightleftharpoons H_2 + CH_3$. Dokl. AN Arm. SSR 33 no.2:49-52 '61. (MIRA 14:10)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN Armyanskoy SSR (for Nalbandyan).
(Methane)
(Hydrogen)
(Oxidation)

GORBAN', N.I.; AZATYAN, V.V.; NALBANDYAN, A.B.

Determination of the coefficient of the recombination of oxygen atoms on a surface of quartz coated with potassium tetraborate. Dokl. AN SSSR 139 no.5:1141-1144 Ag '61. (MIRA 14:8)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom V.N. Kondrat'yevym.
(Combustion research) (Oxygen) (Hydrogen)

GORBAN', N.I.; NALBANDYAN, A.B.

Determination of the rate constants of elementary reactions of atomic hydrogen with simple saturated hydrocarbons. Zhur.fiz.khim. 36 no.8:1757-1761 Ag '62. (MIRA 15:8)

1. Institut khimicheskoy fiziki AN SSSR.
(Hydrogen) (Hydrocarbons) (Chemical reaction, Rate of)

GORBAN', N.I.; NALBANDYAN, A.B.

Determination of the rate constants for elemental reactions between hydrogen atoms and hydrocarbons. Dokl.AN SSSR 132 no.6:1335-1338 Je '60. (MIRA 13:6)

1. Institut khimicheskoy fiziki Akademii nauk SSSR. Predstavleno akademikom V.N.Kondrat'yevym.
(Hydrogen) (Hydrocarbons) (Chemical reaction, Rate of)

S/020/61/139/005/016/021
B103/B220

AUTHORS: Gorban', N. I., Azatyan, V. V., and Nalbandyan, A. B.

TITLE: Determination of the recombination coefficient of oxygen atoms on the surface of quartz covered by potassium tetraborate

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 5, 1961, 1141-1144

TEXT: A new method of determining the recombination coefficient of oxygen atoms is suggested, since the methods used so far (W. V. Smith, J. Chem. Phys., 11, 3, 110 (1943); J. W. Linnet, Trans. Farad. Soc., 55, 8, 1323 (1959) and others) are inadequate. The authors selected a system in which the concentration of O atoms is at least commensurable with that of H atoms, to study the effectivity (ε_0) of heterogeneous recombination of oxygen atoms by measuring the inflammation limits. In such a system, the branching process of the chains should be dependent on the reaction rate of atomic oxygen. Such a system with a well-known reaction mechanism is the low-temperature combustion of CO in the presence of small admixtures of H_2. The authors present the following equation for the mechanism of this reaction in the neighborhood of the first inflammation limit:

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Determination of the recombination ...

$H_2 + O_2 = 2OH;$ (0)

$OH + CO = CO_2 + H;$ (I)

$H + O_2 = OH + O;$ (II)

$O + H_2 = OH + H;$ (III)

$H +$ ст. $\rightarrow$ гибель; (IV)

$O +$ ст. $\rightarrow$ гибель. (V)

CT = wall

decomposition

decomposition

Therefrom the following equation is derived:
$(O_2)^{CO} = \left[(k_4)^{CO}/2k_2\right]\left[1 + (k_5)^{CO}/k_3(H_2)\right]$ (1), where $(O_2)^{CO}$ and $(H_2)^{CO}$ are the oxygen and hydrogen concentrations at the first inflammation limit: k_i are the rate constants of the reactions concerned. The superscripts indicate that the values refer to CO-O_2 mixtures with small admixtures of H_2. If reactions of heterogeneous chain rupture occur in the kinetic range, k_4 and k_5 are independent of the composition of the mixture. Neglecting the indices of these constants and replacing, in (1), the concentrations by partial pressures one obtains:

Card 2/6

Determination of the recombination ...

$p^{CO}_{O_2} = \left[k_4T/2k_2 \cdot 10^{19}\right](1 + k_5T/k_3 \cdot 10^{19} \cdot p^{CO}_{H_2}$ (2). If reactions (IV) and (V) proceed in the kinetic range, it follows from (2) that the dependence of $p^{CO}_{O_2}$ on $1/p^{CO}_{H_2}$ at constant temperature is linear. The straight line representing this function cuts the ordinate in: $b = k_4T/2k_2 \cdot 10^{19}$ (3). Here, $\tan\alpha = (k_4T/2k_2 \cdot 10^{19})\left[(k_5T/k_3 \cdot 10^{19})k_3\right]$ (4) is valid. Thus, it is possible to determine $\tan\alpha$ and b by measuring the initial inflammation limits of $CO-O_2$ mixtures (with small admixtures of H_2) at various temperatures. Based on the known value of k_3, k_5 can be determined from (4). The coefficient (ε_0) is derived from $k_5 = \varepsilon_0 v_0/d$ (5), where v_0 is the thermal velocity of O atoms, and d is the diameter of the vessel. If $\varepsilon_0 = \varepsilon^{\circ}_0 e^{-E_5/RT}$ in the temperature range studied, the equation $\log \tan\alpha/bT^{1.5} = \log k^{\circ}_5/k^{\circ}_3 \cdot 10^{19} + (E_3 - E_5)/2.3RT$ (6) can easily be derived

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Determination of the recombination ....

from (3) and (4) and from v_0. Here, $k_5^o = \mathcal{E}_0^o \sqrt{8R/\pi m_o}/d$ (7). According to (6), a linear relation must exist in this case between log $\tan\alpha/bT^{1.5}$ and $1/T$. E_5 can be determined from the slope of the straight line and from the known value of E_3, whereas $\mathcal{E}_0^o$ can be calculated from the initial ordinate log $k_5^o/k_3^o \cdot 10^{19}$. The tests were made in a quartz vessel lined with potassium tetraborate. The inner surface was treated repeatedly by inflammations of O_2-H_2 mixture before the measurements were carried out. Thereby, the limit was reduced to a constant value. For the test methods see: N. I. Gorban', A. B. Nalbandyan, DAN, 132, no. 6 (1960). The inflammation limits were measured at 550-640°C. The mixtures contained $2CO + O_2$, and 1.95 and 4.0% of H_2, respectively. The mixture $2H_2 + O_2$ contained 6% of H_2. The measured values of the limits were less than 1/100 of the limits found in a vessel lined with MgO, in which MgO guaranteed the proceeding of (IV) and (V) in the diffusion range. Both the low inflammation limits of H_2-O_2 and CO-O_2 mixtures and the dependence of the values of these limits on the

Determination of the recombination ...

surface condition prove that (IV) and (V) take place in the kinetic range. Since $k_4/2k_2 = [O_2]^{H_2}$, where $[O_2]^{H_2}$ is the O_2 concentration at the first inflammation limit of the H_2-O_2 mixture, the right side of Eq. (3) may be replaced by $p_{O_2}^{H_2}$. This means that the section which is cut off by the straight line $p_2^{CO}-1/p_{H_2}^{CO}$ on the ordinate equals the partial pressure of oxygen at the first inflammation limit of a H_2-O_2 mixture. The correctness of Eq. (1) was found graphically owing to the dependence of $p_{O_2}^{CO}$ on $1/p_{H_2}^{CO}$ and confirmed experimentally. The value of E_3-E_5 was calculated from the slope of the straight line on the basis of (6) and is 5.6 ± 0.2 kcal/mole. Since E_3 is 11.7 ± 0.7 kcal/mole, E_5 = 6.1 ± 1.0 kcal/mole. On the basis of (6) and (7) ε_0^c was calculated from b and $k_3 = 1.1 \cdot 10^{-10}$ cm^3/molecule·sec and was

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$1.65 \cdot 10^{-2}$ sec^{-1}. Consequently, $\varepsilon_0 = 1.65 \cdot 10^{-2} e^{-(6100 \pm 1000)/RT}$ sec^{-1} in the temperature range studied. ε_H (recombination coefficient of H atoms on the wall of the vessel) was calculated from the graphically obtained values of b and from k_2 by using an equation analogous to (5): $\varepsilon_H = 9 \cdot 10^{-14} e^{-(5400 \pm 1000)/RT}$. The latter values are in good agreement with those of A. B. Nalbandyan and S. M. Shubina (ZhFKh, 20, 1249 (1946), and N. N. Semenov (O nekotorykh problemakh khimicheskoy kinetiki i reaktsionnoy sposobnosti (Some problems of chemical kinetics and reactivity), Izd. AN SSSR, 1958)). There are 3 figures and 16 references: 9 Soviet and 7 non-Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: March 30, 1961 by V. N. Kondrat'yev, Academician

SUBMITTED: March 25, 1961

S/051/61/011/006/006/012
E032/E514

AUTHORS: Gorban', N.Ya. and Shaykevich, I.A.

TITLE: Phase relationships for the p- and s-c[illegible] of a reflected light-wave as given by th[illegible] Fresnel formulae

PERIODICAL: Optika i spektroskopiya, v.11, no.6, 1961, 750-753

TEXT: It is stated that there is disagreement in the literature about the signs in the Fresnel formulae for the p- and s-components of the electric vector of a reflected light-wave. Detailed experimental and theoretical examination of the Fresnel formulae for light reflected from glass and metals lead the present authors to the conclusion that the Fresnel formulae do in fact give the correct description of the phase change on reflection provided the phase is measured by "an observer looking against the reflected ray". The reflected wave is then found to lead the incident wave in phase. Acknowledgments are expressed to A. A. Shishlovskiy for advice and interest. There are 2 figures and 12 references: 11 Soviet-bloc and 1 non-Soviet-bloc. The English-language reference reads as follows: Ref.12: J.R.Beattie,

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Phase relationships for the ... S/051/61/011/006/006/012
E032/E514

G. K. T. Conn. Phil. Mag., 46, 222, 1955.

SUBMITTED: March 5, 1960

Card 2/2

GORBAN', N.Ya.; SHAYKEVICH, I.A.

Optical properties of Ni-Cu alloys in the visible spectral region.
Opt. i spektr. 19 no.1:133-135 Jl '65.
(MIRA 18:8)

ACCESSION NR: AP4013294 S/0135/64/000/002/0031/0033

AUTHORS: Gorban', P. N. (Engineer); Yampol'skiy, D. Z. (Engineer)

TITLE: Gas-electric cutting of stainless steels under purified nitrogen

SOURCE: Svarochnoye proizvodstvo, no. 2, 1964, 31-33

TOPIC TAGS: stainless steel, 1Kh18N9T stainless steel, steel cutting, gas electric cutting, oxygen producing unit K 30, nitrogen producing unit ZhAK 80, gas producing unit, ADSV automatic welder, brass TU TsMO, copper M1, copper M2, copper M3

ABSTRACT: The application of nitrogen in the gas-electric cutting of steel is desirable from the standpoint of economy and safety, but its content of oxygen (0.1-1.0%) is too high for proper cutting. This causes a rapid burning of the tungsten electrode and the disturbance of the cutting process. The authors suggest the use of two gas producing units: K-30 (oxygen) and ZhAK-80 (oxygen and nitrogen). These units were designed for the production of purified nitrogen and were used during the experimental gas-electrical cutting of stainless steel. The oxygen content of the purified nitrogen obtained was 0.05-0.02%. Steel sheets 10-75 mm thick and aluminum alloy sheets 60 mm thick served in the experimental cutting under purified nitrogen with a small admixture of argon. The results obtained

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ACCESSION NR: AP4013294

were good. The magnitude of the thermal effect zone (of the cut steel) was determined metallographically; this zone in stainless steel did not exceed 0.45-0.55 mm and in Al alloy--2-3 mm. It was established that the quality of work depended on the material cut and on the accuracy of nozzle production. In the device described here the internal and the external nozzles were supposed to be made of chromium-zinc brass TU TsM0 or copper M1. Because the experimental plant did not have these materials, coppers M2 and M3 were used in nozzle production. It was established that this cutting method was very economical. The expenditure of the purified nitrogen varied with the thickness of the metal from 12 to 20 liter/min. R. I. Sinitskiy participated in this work. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

ZAYTSEV, K.I., kand. tekhn. nauk; SHAMOVSKIY, E.Kh., kand. tekhn. nauk; YAMPOL'SKIY, D.Z., inzh.; GORBAN', P.N., inzh. (gorod Zlatoust).

Consultations. Svar. proizv. no.1:47-48 Ja '65.
(MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprovodov (for Zaytsev). 2. Sibirskiy metallurgicheskiy institut (for Shamovskiy).

GORBAN', R., inzhener

Platform at the end of a conveyer for loading bags of flour in wagons. Muk.-elev.prom.21 no.6:18 Je'55. (MLRA 8:10)

1. Kremenchugskaya mel'nitsa No.18.
(Flour mills--Equipment and supplies)

GORBAN', R.

Tripping device for conveyers. Muk.-elev.prom. 22 no.7:26-27 Jl '56.
(MLRA 9:9)

1. Kievskaya mel'nitsa no.4.
(Grain-handling machinery) (Dumping appliances)

LEYBUSH, A.G., kand.khim.nauk; SHORINA, Ye.D.; Prinimali uchastiye: GORBAN', S.M.; Il'ina, R.A.

Conversion of methane at elevated pressure. Khim. prom. no. 6:469-476 S '60. (MIRA 13:11)
(Methane)

35802
S/137/62/000/004/084/201
A052/A101

18.1270

AUTHORS: Presnyakov, A. A., Gorban', Yu. A., Chervyakova, V. V.

TITLE: On the constitution diagram of Al-Zn

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 9, abstract 4I61 ("Tr. In-ta yadern. fiz. AN KazSSR", no. 4, 1961, 85 - 88)

TEXT: The constitution diagram of the Al-Zn system in the range from 60 to 80% Zn was studied with the purpose of its closer specifying. As initial materials Al of A00 (A00) grade and Zn of 4B (TsV) grade were taken. After casting into a graphite mold the alloys were homogenized during 168 hours at 350°C, deformed by 50%, annealed two hours at 350°C and cooled with the furnace. The investigation was carried out by the temperature X-ray diffraction analysis method. It is shown that in the Al-Zn system there is a peritectic transformation at ~443°C, a β-phase exists, of a different nature from α-phase, with a break of solubility, an eutectoid decomposition $\alpha' \rightarrow \alpha + \beta$ develops at ~340°C with the eutectoid point at ~70% Zn. There are 12 references. See also RZhMet, 1961, 11Zh132.

Z. Rogachevskaya

[Abstracter's note: Complete translation]

Card 1/1

PRESNYAKOV, A.A.; Prinimal uchastiye: GORBAN', Yu.A.

Determination of crystal lattice parameters on the ray patterns of macrocrystalline specimens. Zav.lab. 27 no.6:689-691 '61. (MIRA 14:6)

1. Institut yadernoy fiziki Akademii nauk KazSSR.
(Crystal lattices) (Radiograph)

PRESNYAKOV, A.A.; GORBAN', Yu.A.; CHERVYAKOVA, V.V. (Alma-Ata)

Phase diagram Al - Zn. Zhur.fiz.khim. 35 no.6:1289-1291 Je '61.
(MIRA 14:7)

(Aluminum-zinc alloys)

KRUPSKIY, N.K.; ALEKSANDROVA, A.M.; GORBAN', Yu.V.

Curves of the potentiometric titration of soil suspensions in anhydrous solvents. Pochvovedenie no. 5:106-110 My '61.
(MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut pochvovedeniya.
(Soils--Analysis) (Soil acidity)

GORBANENKO, A.D., kand.tekhn.nauk; KUZNETSOV, I.G., inzh.; CHEKANOV, G.S., inzh.

Burning Donets gas coal in shaft-mill furnaces. Elek.sta. 32 no.6:13-15 Je '61. (MIRA 14:8)
(Coal) (Furnaces)

DVORETSKIY, A.I., inzh.; GORBANENKO, A.D., inzh.; SAMOYLYUK, A.V., inzh.; IVANOV, B.V., inzh.

Use of a liquid admixture VNIINP-102 in fuel oil with high sulfur content. Elek. sta. 33 no.8:16-20 Ag '62. (MIRA 15:8)
(Boilers) (Petroleum as fuel)

GVOZDETSKIY, L.A., inzh.; GORBANENKO, A.D., kand.tekhn.nauk; KARPOV, V.V., inzh.; KRASNOSELOV, G.K., inzh.; TSIRUL'NIKOV, L.M., inzh.

Burning of Arlan petroleum with increased stabilization in boiler furnaces. Elek. sta. 33 no.10:22-25 O '62. (MIRA 16:1)
(Boilers) (Petroleum as fuel)

GORBANENKO, A.D., kand.tekhn.nauk; TSIRUL'NIKOV, L.M., inzh.; CHUPROV, V.V., inzh.; GVOZDETSKIY, L.A., inzh.; KRASNOSELOV, G.K., inzh.; MYAKOTINA, A.Z., inzh.

Burning of liquid fuels in combustion chamber. Teploenergetika 10 no.4:44-49 Ap '63. (MIRA 16:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskiy institut i Bashkirenergo.
(Boilers) (Furnaces)

GORBANENKO, A.D., kand. tekhn. nauk; TSIRUL'NIKOV, L.M., inzh.

Complete combustion of liquid fuel in a boiler furnace.
Elek. sta. 34 no.7:11-13 Jl '63. (MIRA 16:8)

TSIRUL'NIKOV, L.M., inzh.; GORBANENKO, A.D., kand.tekhn.nauk; ZHARKOV, B.L., kand.fiz.-mat.nauk

Stability of the expenditure characteristics of centrifugal burners with high productive capacity. Teploenergetika 11 no.2:46-49 F '64. (MIRA 17:4)

1. Vsesoyuznyy teplotekhnicheskiy institut.

GORBANENKO, A.D.; ZEGER, K.Ye.; ZERNOVA, T.A.; IVANOV, K.I.; LIPSHTEYN, R.A.; LUZHETSKIY, A.A.; POVOLOTSKIY, L.I.

Importance of ash content in boiler fuels for electric power plants. Standartizatsiia 28 no.1:24-25 Ja '64.
(MIRA 17:1)

TSIRUL'NIKOV, L.M., inzh.; GORBANENKO, A.D., kand. tekhn. nauk; ZHARKOV, B.L., kand. fiz.-met. nauk

Study of small spray burners of high productive capacity.
Energomashinostroenie 10 no.11:27-29 N '64 (MIRA 18:2)

GORBANENKO, A.D., kand. tekhn. nauk; TSIRUL'NIKOV, L.M., inzh.; KRASNOSELOV, G.K., inzh.; GELLER, Z.I., doktor tekhn. nauk; LIPINSKIY, F.A., inzh.

Effectiveness of burning mazut. Elek. stat. 35 no.1:66-71 Ja '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskiy institut im Dzerzhinskogo (for Gorbanenko, TSirul'nikov). 2. Bashkirenergo (for Krasnoselov). 3. Groznenskiy neftyanoy institut (for Geller). 4. Novoufimskaya teploelektrotsentral' (for Lipinskiy).

GORBANENKO, K.D., kand. tekhn. nauk; TSIRUL'NIKOV, L.M., inzh.;
KRASNOSELOV, G.K., inzh.

Mechanically caused incomplete combustion of a liquid fuel in furnace combustion chambers. Elek. sta. 35 no.10:10-12 O'64.
(MIRA 17:12)

L 32711-65 EWT(1)/EWG(v)/T-2 Pe-5 JT

ACCESSION NR: AP5003320 S/0167/64/000/006/0066/0073

AUTHORS: Akhmedov, R. B.; Tairul'nikov, L. M.; Gorbanenko, A. D.; Zharkov, B. L.

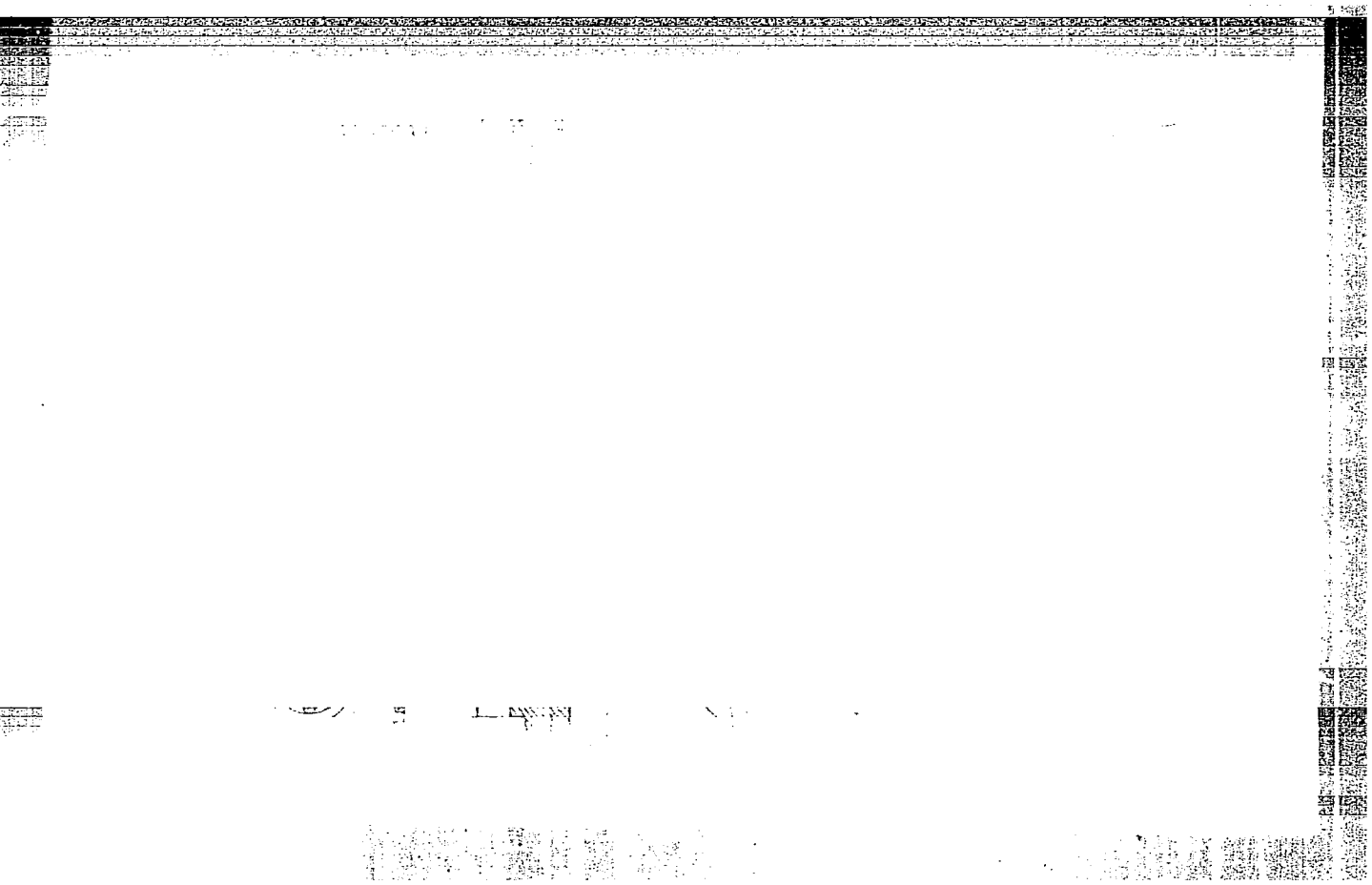
TITLE: Experimental investigation of the dispersion characteristics of high-capacity centrifugal injectors

SOURCE: AN UzSSR. Izvestiya. Seriya tekhnicheskikh nauk. no. 6, 1964, 66-73

[illegible] Injector, injector nozzle / TsAKR injector [illegible]

[illegible] "paraffin" method described by M. Ya. [illegible] and L. I. Goller [illegible] vybore voshchestva dlya modelirovaniya [illegible]

$$R = 100\ e - \left(\frac{d}{d_{cp}}\right)^n.$$



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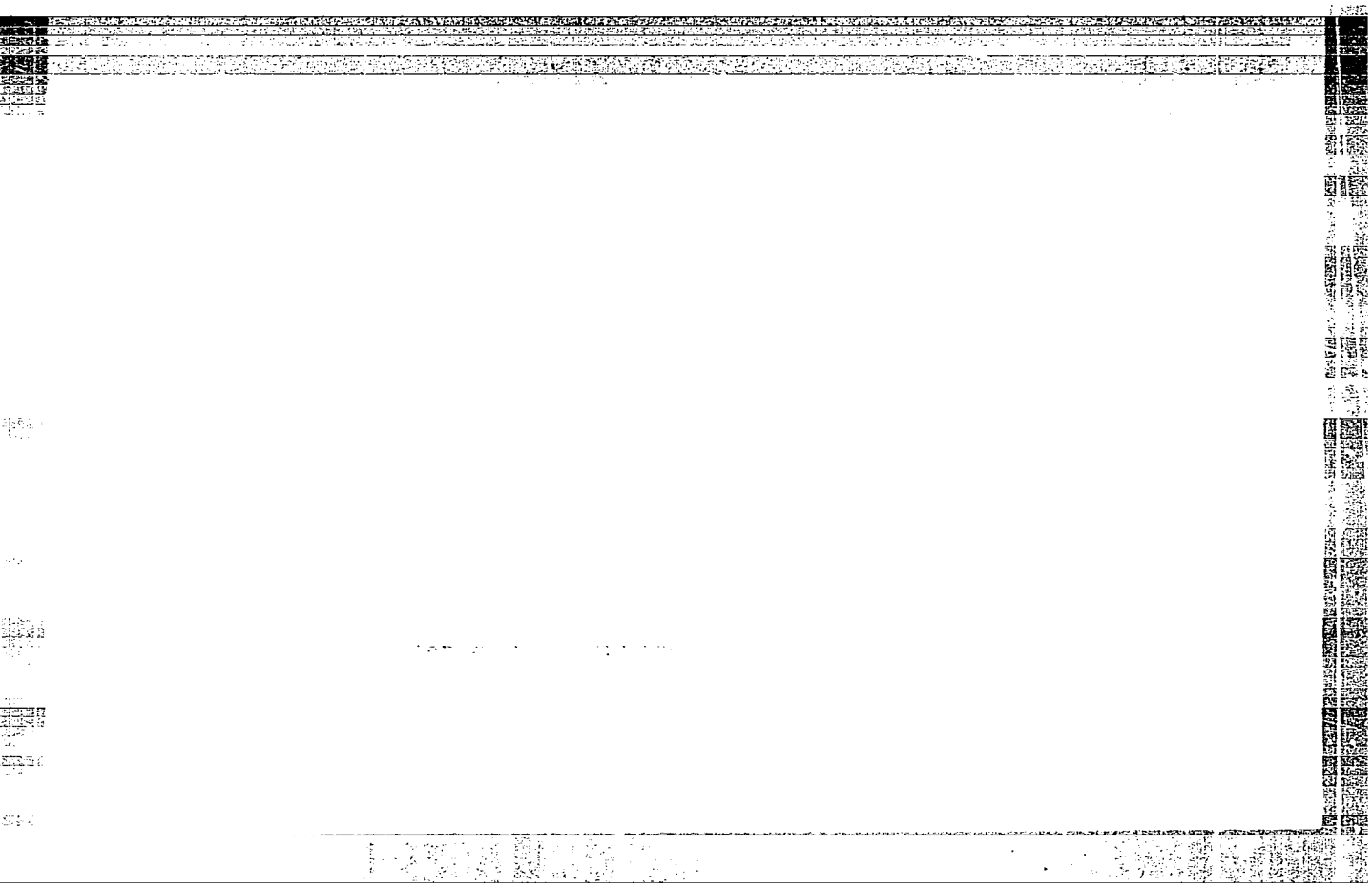

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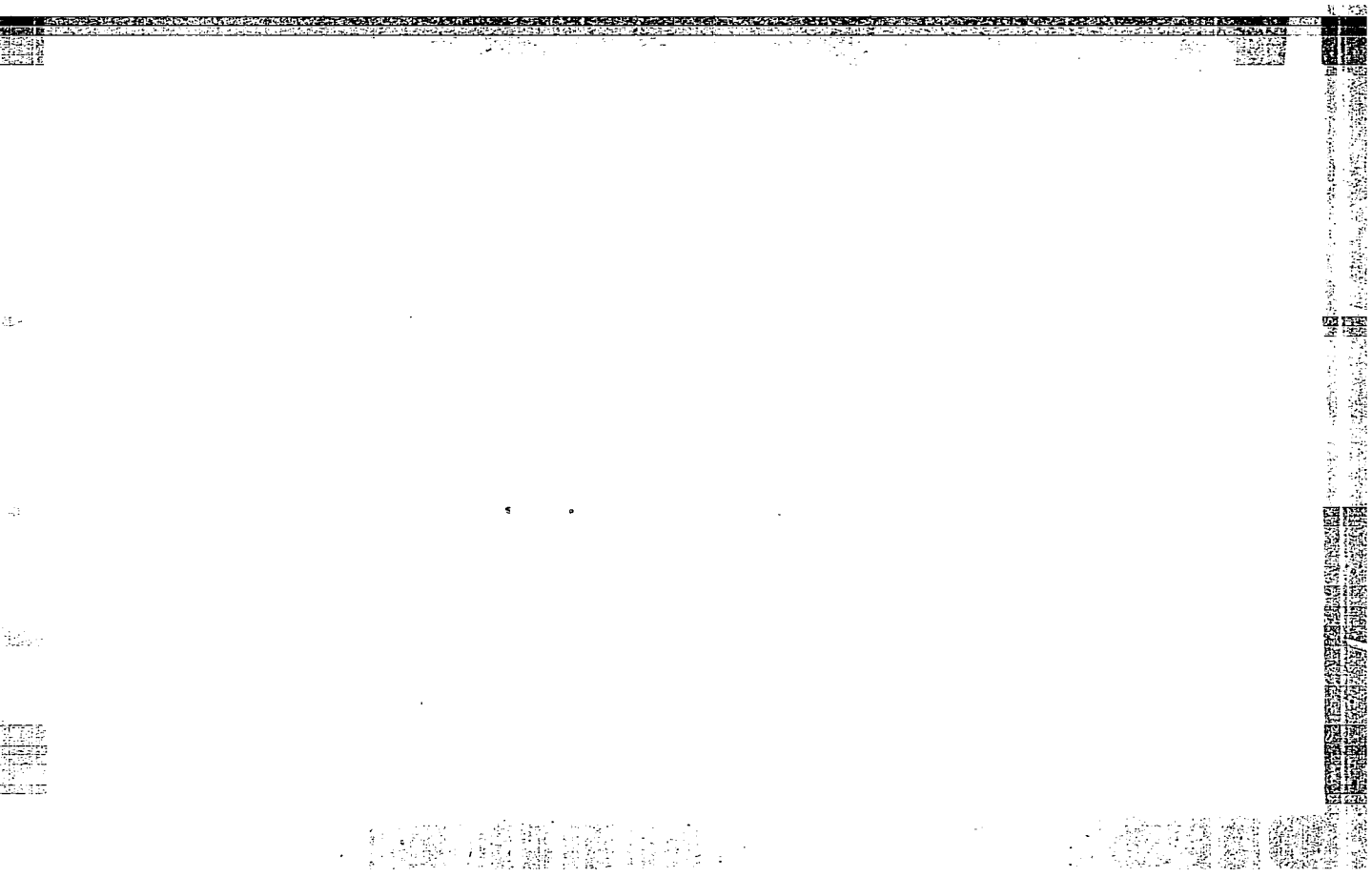

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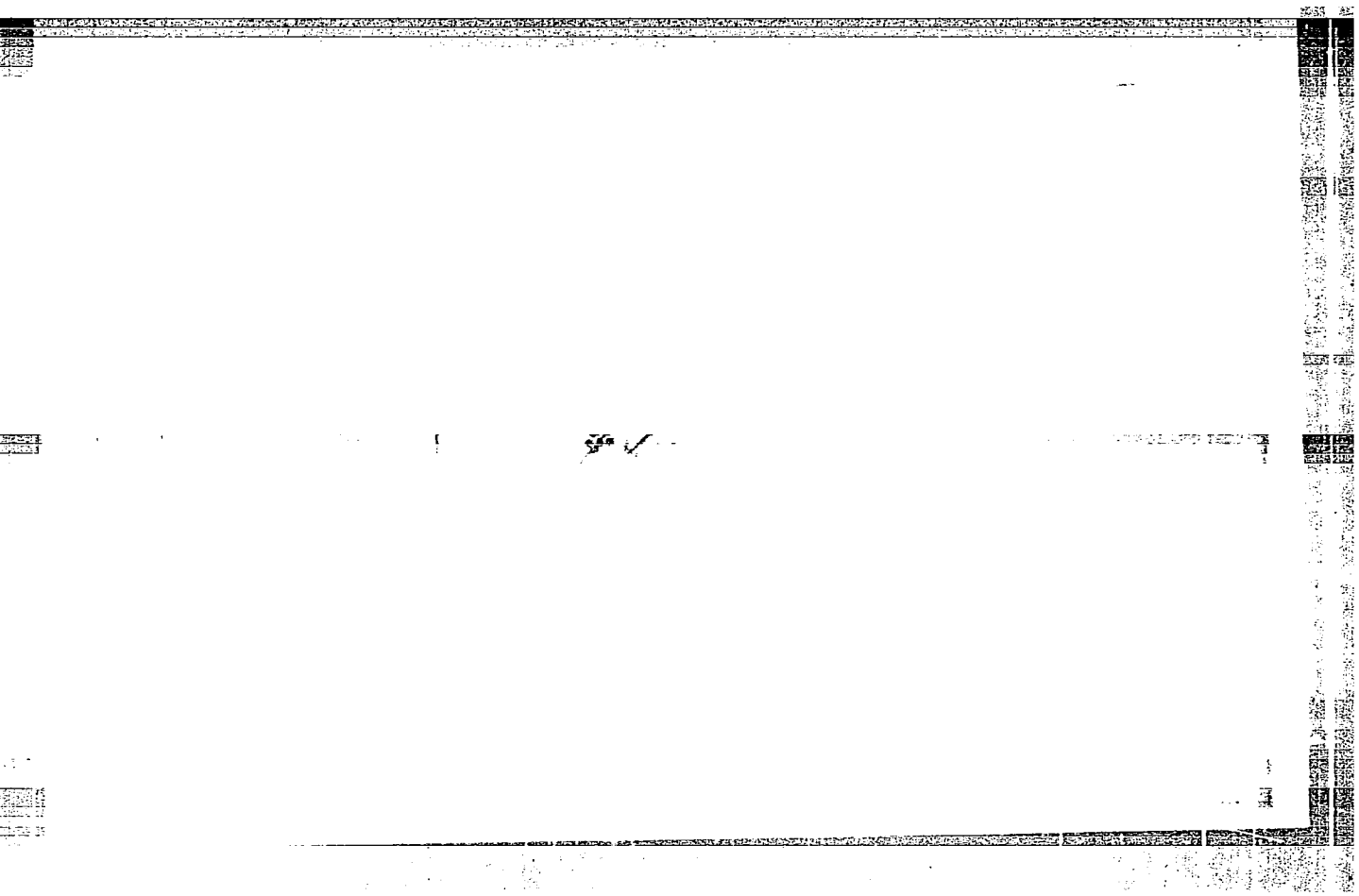

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000516030007-9"

AKHMEDOV, R.B.; GORBANENKO, A.D.; ZHARKOV, B.L.; TSIRUL'NIKOV, L.M.

Flow ratio from centrifugal atomizers. Izv. AN Uz. SSR. Ser. tekh. nauk 9 no. 1 72-76 '65 (MIRA 19:1)

1. Institut ispol'zovaniya topliva Gosneftekhimkomiteta pri Gosplane SSSR.

GORBANENKO, K.A., inzhener.

Operation of resistance furnaces. Prom.energ. 11 no.2:17 F '56.
(Electric furnaces) (MLRA 9:6)

L 10641-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6032129 SOURCE CODE: UR/0275/66/000/008/B004/B005

30

AUTHOR: Al'tman, L. V.; Gorbanenko, N. D.

TITLE: Investigation of cadmium selenide films obtained by vapor deposition under a vacuum

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 8B32

REF SOURCE: Tr. Nauchno-techn. konferentsii Leningr. elektrotekhn. in-ta svyazi. Vyp. 3. L., 1965, 115-120

TOPIC TAGS: cadmium selenide, semiconducting film, polycrystalline film, thin film, cadmium selenide film

ABSTRACT: The influence of various technological factors on the properties of semiconducting polycrystalline CdSe films of stoichiometric composition is investigated. The basic physical constants of the CdSe compound are given and some of its advantages, when applied in film transitors, are noted. CdSe films, 0.2—0.4 thick, were obtained by vapor deposition on substrates made of glass or GaF_2. The following values were verified in this connection: substrate temperature, settling velocity (usually 50 Å/sec), distance between vaporizer and substrate and residual

Card 1/2 UDC: 621.315.592.548.552.546.23'48

L 10841-67
ACC NR: AR6032129 0

pressure in the system. With variation in substrate temperature from 75 to 310C, ρ varied from 10^6 to 10 ohm. cm, respectively; it is suggested that this strong variation is caused by the influence of oxygen occlusions during deposition. An insignificant photosensitivity was observed in all sprayed films which were not subjected to further heat treatment. At substrate temperatures of up to 350C, crystallite dimensions did not exceed 0.5 μ. Measurements of voltampere characteristics in two-electrode structures showed that films which had not been subjected to heat treatment are exceptionally unstable. They are stabilized by annealing in air and in contact with CdSe powder alloyed with $CuCl_2$ or $InCl_3$. As a result of annealing, the deep-trap concentration decreases. The observed increase of crystallite dimensions resulted in a considerable increase of mobility. Investigations of transistor structures showed that CdSe films can be used in the development of channel film transistors. [Translation of abstract]

SUB CODE: 20/

Card 2/2

IL'INA, L.I.; GORBARENKO, N.I.; DENISOVA, Ye.A. (Moskva)

Relation between the electrical activity of the cerebral cortex and protein metabolism under chronic effect of ionizing radiations. Med.rad. 9 no.9:8-13 S '64. (MIRA 18:4)

GORBANENKO, V.

GORBANENKO, V., kapitan-nastavnik (Chernomorskoye parokhodstvo)

Increasing the accuracy of streamed logs. Mor.flot 17
no.5:16-17 My '57. (MLRA 10:7)
(Aids to navigation)

L 27603-65 EEO-2/EWT(d)/EEC-4 Pn-4/Po-4/Pq-4/Pg-4/Pk-4/Pl-4 BC

ACCESSION NR: AP5001395 S/0308/64/000/010/0024/0025

AUTHOR: Gorbanenko, V. (Captain of ship Gorlovka)

TITLE: Improvement of temperature control in the use of the Kurs gyrocompass

SOURCE: Morskoy flot, no. 10, 1964, 24-25

TOPIC TAGS: gyrocompass, temperature control, gyrocompass cooling / Kurs-3 gyro, Kurs-4 gyro

ABSTRACT: Cooling for shipborne Kurs-3 and Kurs-4 gyrocompasses as provided by the use of sea water to cool the distilled water in the sealed cooling vessel of the gyrocompass. Temperature limits are 39 ± 2 C for the Kurs-3 and 44 ± 2 C for the Kurs-4. The installed cooling system is judged to be inadequate, however, for efficient operations in warm seas. The author proposes and has tested a gyro cooling system that uses sea water in a between-bottom compartment to cool the distillate coils and a pump to circulate the coolant through insulated copper tubing to the gyropost. It is recommended that soviet shipbuilders follow his suggestion and improve it by using polyethylene tubing to replace the copper. Also recommended is the removal of the AMG-4 system from the gyropost to further reduce heating in the vicinity of the gyrocompass.

Card 1/2